

CLAIMS:

1. A bearing housing to receive and be deformed around a ball having a predetermined radius R to form a bearing, an inner surface of the bearing housing being generally cup-shaped, having at least approximately circular symmetry around a central axis, and comprising:

a cup portion of the radius R shaped to seat closely a first portion of a ball of radius R placed in the bearing housing; and

a conforming portion lying in the plane which is perpendicular to the central axis and contains the centre of curvature of the cup portion, there being a clearance between the conforming portion and a second portion of the ball, the clearance being greater than any clearance between the cup portion and the first portion of the ball,

the bearing housing being shaped such that, when the bearing housing is deformed around a ball having radius R to form a bearing, the bearing housing is deformed so that the conforming portion matches closely the shape of the second portion of the ball.

2. A bearing housing according to Claim 1, further comprising an upstanding wall portion extending substantially parallel to the central axis and being shaped such that, when the bearing housing is deformed around a ball to form a bearing, the wall portion matches closely the shape of a third portion of a ball of radius R placed in the bearing housing.

3. A bearing housing according to Claim 2, wherein an inner surface of the wall portion is concave.

4. A bearing housing according to Claim 3, wherein the radius of the arc of the concave wall portion is greater than the radius R .

5. A bearing housing according to Claim 4, wherein the radius of the arc of the concave wall portion is at least double the radius R.

6. A bearing housing according to any one of Claims 2 to 5, wherein the distance from the central axis to the wall portion at a free end of the wall portion is substantially equal to the radius R.

7. A bearing comprising a bearing housing according to any preceding claim, deformed around a ball having substantially the radius R.

8. A method of manufacturing a bearing, comprising the steps of:
providing a bearing housing being generally cup-shaped, having at least approximately circular symmetry around a central axis, and comprising: a cup portion of the radius R shaped to seat closely a first portion of a ball of radius R placed in the bearing housing; and a conforming portion lying in the plane which is perpendicular to the central axis and contains the centre of curvature of the cup portion, there being a clearance between the conforming portion and a second portion of the ball, the clearance being greater than any clearance between the cup portion and the first portion of the ball;

placing a ball having substantially the radius R in the bearing housing;
and

deforming the bearing housing around the ball in such a way that the conforming portion matches closely the shape of the second portion of the ball.

9. A method according to Claim 8, wherein the step of providing a bearing housing comprises providing a bearing housing further comprising an upstanding wall portion extending substantially parallel to the central axis and being shaped such that, when the bearing housing is deformed around a ball to

form a bearing, the wall portion matches closely the shape of a third portion of a ball of radius R placed in the bearing housing.

10. A method according to Claim 9, wherein the step of providing a bearing housing comprises providing a bearing housing wherein an inner surface of the wall portion is concave.

11. A method according to Claim 10, wherein the radius of the arc of the concave wall portion is greater than the radius R .

12. A method according to Claim 11, wherein the radius of the arc of the concave wall portion is at least double the radius R .

13. A method according to any one of Claims 9 to 12, wherein the step of providing a bearing housing comprises providing a bearing housing wherein the distance from the central axis to the wall portion at a free end point of the wall portion is substantially equal to the radius R .

14. A bearing housing to receive and be deformed around a ball having a predetermined radius R to form a bearing when the ball is placed at a predetermined initial location, an inner surface of the bearing housing having at least approximately circular symmetry around a central axis, and being shaped such that:

when a ball having the radius R is placed in the initial location, a clearance is present between the inner surface of the bearing housing and the surface of the ball in the plane perpendicular to the central axis and passing through the centre of the ball; and

when the bearing housing is deformed around the ball to form a bearing, the bearing housing is deformed so that the clearance between the inner surface

of the bearing housing and the surface of the ball in the plane perpendicular to the central axis and passing through the centre of the ball is less than the clearance prior to deformation of the bearing housing.

15. A bearing housing according to Claim 10, comprising two upstanding wall portions which extend in opposing directions substantially parallel to the central axis, the diameter of the opening at the free end of each wall portion being greater than or equal to the radius R and smaller than the diameter of the inner surface of the bearing housing, prior to deformation thereof, in the plane perpendicular to the central axis and passing through the centre of a ball having the radius R placed in the initial location

16. A method of manufacturing a bearing, comprising the steps of:

providing a bearing housing, an inner surface of the bearing housing having at least approximately circular symmetry around a central axis, and being shaped such that: when a ball having the radius R is placed in the initial location, a clearance is present between the inner surface of the bearing housing and the surface of the ball in the plane perpendicular to the central axis and passing through the centre of the ball; and when the bearing housing is deformed around the ball to form a bearing, the bearing housing is deformed so that the clearance between the inner surface of the bearing housing and the surface of the ball in the plane perpendicular to the central axis and passing through the centre of the ball is less than the clearance prior to deformation of the bearing housing;

placing a ball having substantially the radius R in the initial position; and deforming the bearing housing around the ball to form a bearing.

17. A bearing housing substantially as hereinbefore described, with reference to Figure 3 of the accompanying drawings.

18. A bearing substantially as hereinbefore described, with reference to Figure 3 of the accompanying drawings.

19. A method substantially as hereinbefore described, with reference to Figure 3 of the accompanying drawings.